**Before the**

**FEDERAL COMMUNICATIONS COMMISSION**

**Washington, D.C. 20554**

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| In the Matter of | ) | |
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| Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming | ) | CS Docket No. 95-61 |
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# COMMENTS OF THE SATELLITE BROADCASTING AND COMMUNICATIONS ASSOCIATION OF AMERICA

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June 30, 1995

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## I. INTRODUCTION

Satellite Broadcasting and Communications Association of America ("SBCA") is pleased to submit to the Commission its comments in the above-referenced Notice of Inquiry. Many new market place developments have occurred since the Commission's NOI of last year, some of them having a significant potential impact on the "state of competition" in the video market place which is the central feature of the Commission's annual report to the Congress.

The SBCA is the national trade association of the Direct-To-Home ("DTH") satellite industry. The Association has a vertically integrated membership, in that all major operating segments of the industry are represented. These include the satellite

manufacturers and operators; DBS service providers; manufacturers and distributors of satellite receiving equipment; third party program packagers (C-Band); high-tech compression and decryption technology companies; and the major program services which offer subscription programming to DTH households. Many of the SBCA's members are industry pioneers, not only in the development of satellite technology itself, but also of sophisticated new communications techniques and services which will make a substantial contribution to the successful functioning of the National Information Infrastructure.[1]

## II. THE DTH SATELLITE UNIVERSE

There is no doubt that DTH satellite services, which include the three major DTH technologies (C-Band, Medium and High-Powered Ku-Band), have made great strides in the market place, even since last year's report. At that time, the Commission's NOI focussed on the basic marketing structure of the technologies which are competitors to cable today. For example, it was important for the Commission to understand how Direct-To-Home ("DTH") programming is sold to satellite households because each type of DTH technology utilizes different consumer marketing techniques. These differentiations are significant because they have a direct effect on the ability of cable operators to determine the number of DTH subscribers in their service areas for the

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[1]The SBCA has also recently formed the Satellite Industry Association ("SIA") made up of commercial satellite companies offering video, data, and communications services, as well as global and interactive communications capabilities. The SIA is functioning as an operating arm of the SBCA.

purpose of measuring "effective competition." We will review in these comments the means of DTH programming distribution, and the aids SBCA has developed to assist in DTH subscriber counts for this very purpose.

In this NOI, the Commission now has a better grasp of the workings of the video market place, and the questions posed to commenters reflect that understanding. Some of the information being requested is either simply not available. Other data regarding individual subscriber information and projections through the end of the decade we leave to our member companies to address. Nonetheless, we have made every attempt to present useful information, based on research readily available from our member companies, as well as the data which our SkyTRENDS[2] program has collected.

**How DTH Consumers Subscribe to Programming**

We described for the Commission in our comments in last year's NOI on effective competition how DTH households subscribe to programming. Those means differ between C-Band and Ku-Band services. Briefly, Ku-Band service providers distribute programming for the most part from satellites which are under their control. Thus the

[2]SkyTRENDS is a joint research project of the SBCA and Media Business Corp in Denver, CO. The project collects and disseminates monthly vital aggregate DTH industry statistics through the publication SkyREPORT; conducts the SkyFORUM investment symposia twice yearly; and offers the only reliable source of non-duplicative DTH subscriber data on effective competition through its Effective Competition Tracking Reports program.

service provider is able to market programming through its system of agents or representatives and "authorize" a consumer system for decrypted signal reception from a central processing center. The national nature of the service enables consumers to select a program package and gain authorization for signal reception and decryption from a single source.

C-Band program distribution, on the other hand, is decentralized because multiple program vendors market their signals either individually or in a package to consumers, although each authorizes on a national basis their reception. Instead program services typically lease transponders from satellite operators, choosing from 21 satellites operating in the band which beam to consumer receiving antennas 6-8 feet in size.[3] Thus the entire C-Band DTH service can be best described as a confederation of satellites and program service providers.

Because of the industry's infrastructure in the C-Band, sales of programming to consumers are undertaken by approximately 30 national "program packagers." These business entities have contracted with the various program services to act as a central

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[3]Current demand for C-Band transponder time is extremely high, and virtually all transponders on "cable birds" are sold out. New program services looking to launch in the near future face significant costs and limited space availability. Transponder charges have increased dramatically and can go as high as $150,000 per month depending on usage. This situation may continue into the foreseeable future. Some programmers are electing to either lease Ku-Band capacity or launch in a digital format. Existing program services with a sizeable C-Band (analog) DTH base are effectively precluded from transitioning to digital in view of the fact that such a move would disenfranchise existing customers because hybrid digital/analog consumer receiving equipment is not available.

agent in marketing program packages to consumers. In effect, they fill a central marketing role for C-Band subscribers which Ku-Band service providers already perform on their own. In order to subscribe to C-Band programming, a consumer selects a program package from one of these national C-Band program marketers. Access to the packager is made through an 800 number or a local satellite dealer who is a representative of the packager. Monthly program charges are highly competitive with other multichannel video providers and frequently prove to be a major reason why consumers choose DTH over another delivery technology.

The authorization "brain" of C-Band technology is the Access Control Center ("ACC") in San Diego, California. Originally constructed and owned by General Instrument, it is run on a cost sharing basis with all C-Band satellite programmers contributing to meet the Center's operating expenses. The ACC's principal function is to authorize, or "turn on," the decryption unit in consumer receiving systems. This is accomplished, once a program packager has verified the descrambling module unit of a new subscriber, by inserting into the satellite data stream an electronic bit containing information unique to that consumer's decryption module. Once this information, or "key," is received by a consumer decoder, the unit decrypts only those services in the program package selected by the subscriber. Neither the ACC, the program service, nor the data stream itself is capable of identifying the actual geographic location of the receiving unit. We will discuss the significance of this shortly in the description of the "gray market."

The Ku-Band market currently has two primary players -- PRIMESTAR and DIRECTV/USSB. PRIMESTAR is a medium-power (FSS) Ku-Band service which is delivered to consumer antennas approximately 39 inches in size via Satcom K-1. Currently, some 75 channels of digital video programming are delivered along with several digital audio services. The programming includes a cross section of basic cable and premium movie services. In addition, numerous regional sports networks and pay-per-view (PPV) channels are offered. PRIMESTAR uplinks its services from Denver, CO.

PRIMESTAR is offered as a monthly subscription service by local agents which include both cable operators and DTH retailers. While these local agents have latitude in the marketing of the product, for the most part, PRIMESTAR is made available to consumers on a lease basis, with monthly costs starting at approximately $28 - $30 plus installation. This fee covers not only the basic programming package but also all receive equipment (antenna, digital set-top box, and remote control). In addition to the lease program (which is utilized by most customers), PRIMESTAR has also begun offering a hardware purchase option to consumers.

The DIRECTV/USSB program services are delivered via two high-powered (BSS) Ku-Band satellites co-located at 101 degrees West Longitude. Consumers can access both DBS providers from the same reception system, marketed under the trade name of Digital Satellite System (DSS). This hardware package is comprised of an 18-inch

antenna, a digital set-top box, and a remote control. The hardware is sold by consumer electronic outlets, mass merchandisers, and selected satellite retailers. Basic reception systems start at $699 plus installation.

DIRECTV offers approximately 150 video channels and 28 audio services to consumers in a variety of packages. It offers basic cable services, along with premium services such as Disney and ENCORE. Part of this offering also includes some 50 pay-per-view (PPV) movie channels which operate in a "near video-on-demand" format, with hit movies starting every 30 minutes. DIRECTV has also gained access to "out-of-market" sports programming such as the NFL Sunday Ticket, NBA League Pass, and the NHL Center Ice packages. DIRECTV services are uplinked in a digital format from facilities in Castle Rock, CO

United States Satellite Broadcasting, Inc. (USSB) shares the 101 degree DBS orbital slot with DIRECTV. The company uses digital compression technology to deliver approximately 20 channels of video on the five DBS channels it has been granted at that orbital position. This programming is comprised of several "multiplexed" premium movie services such as HBO/Cinemax, SHOWTIME/The Movie Channel, and FLIX. In addition, USSB offers consumers a variety of popular basic services such as MTV, VH-1, and Nickelodeon. USSB services are uplinked in a digital format from facilities located in suburban St. Paul, MN.

Programming from either USSB or DIRECTV can be obtained either at the time of hardware acquisition from the retailer, or by calling 800 numbers which access the customer service centers for each operation. While the two services share a common satellite and reception hardware, the marketing of programming is done independently.

## III. THE DTH INDUSTRY IN 1994-1995

### C-Band Services

1994 saw remarkable developments in the DTH marketplace. SBCA estimates that the total number of DTH subscribers for all three technologies amounted to approximately 3 million households. This is in sharp contrast to the roughly 1.8 million C-Band subscribers in 1993 -- C-Band being the sole DTH technology available to home viewers at that time (with the exception of a small number of Medium Powered Ku-Band subscribers).

For 1994, the venerable C-Band technology hit a new high of more than 640,000 new system shipments, and over 720,000 new subscribers authorized to received encrypted programming. The differential between "systems shipped" and "authorizations" can be attributed to consumers "converting" to legal subscribership to encrypted programming after presumably receiving programming illegally. This is a direct result of the success of the VCRS decryption technology introduced in the market place by General Instrument in 1992, and the phasing out of the older VCII

system which had been previously compromised.

We now estimate that there are approximately 2.3 million C-Band subscribers out of a total C-Band system population of 4.5 million. We do not believe that C-Band growth was simply a market place phenomenon. The C-Band side of the DTH industry was able to capitalize on the heightened publicity surrounding DTH generated by the advent of DBS (Ku-Band) services, as well as through increased visibility of the use of satellites in general for all forms of communications. In addition, the durability of the technology is reflected in the transponder agreements the major DTH program services have made through the year 2003.

The Commission states in its NOI that, "Sales of new HSD systems and new subscriptions to HSD package programming services grew at substantially slower rates in the last few months of 1994." Without the context of other information, the statement can be misleading. While it is true that new system shipments and new subscription authorizations were at an all-time high (since the advent of scrambling in 1986), the June issue of SkyREPORT, the SkyTRENDS program monthly review of DTH industry statistics, presents some very interesting data for both the end of 1994, as well as the status of the market for roughly the first half of 1995 (see Exhibit B).

As we discussed previously, 1994 witnessed what may have been the last big wave of "conversion" subscribers, i.e. those households which already owned DTH systems

and elected to take a paid subscription to video programming. New C-Band systems shipped in the first three months of 1995 surpassed those of the same period in 1993 and were only slightly less than the comparable period in 1994. The data for April-May, however, indicate a significant slowdown in shipments. Any analysis of these factors must also take into account the lead time between when a system is shipped from the factory and when it is actually sold at retail.

Statistics on authorizations paint another dimension to the picture. While "gross authorizations," i.e. new subscribers to C-Band programming, appear to be running at a reasonably good level, "net new authorizations" have trended substantially lower. In other words, the number of C-Band subscribers who have discontinued their subscriptions has increased, thereby diminishing the "real" number of new authorizations.

Attributing the disparities in C-Band between system shipments, gross authorizations and net authorizations is extremely difficult because each set of data is driven by separate factors. System shipments are just that -- namely new manufacture of C-Band units based on major component shipments from the factory, and in particular antennas and receivers. Because this data does not reflect new retail system sales, it is difficult to correlate it directly to gross authorizations because the latter could, among other things, only reflect factory shipments going forward, but actually how many is too difficult to measure. In other words, the predictability of gross

authorizations based on system shipments as a pure test of market penetration is not possible to gauge if only because the actual number of systems in the "pipeline" or in inventory is not available.

In addition, gross authorizations are also tempered by discontinued subscriptions and conversions from illegally modified decoders, thereby resulting in the net authorization figures discussed above. Again, there are no hard measures against which discontinued subscriptions can be judged. In the first instance, consumer spending in the beginning of 1995 has been down across the board, and the state of consumer and home electronics equipment sales of all types are often the bellwether of such a decline. In other words, other consumer electronic product lines, in addition to DTH systems, have also been affected.

By the same token, the rate of decline in the purchase of new C-Band systems may be distorted as "conversions" of existing DTH users begin to taper off, and gross authorizations simultaneously decrease. Thus the question arises with regard to the increase in discontinued subscriptions by existing DTH households. Again, this is a market area where no hard and fast parameters exist to help in clarifying the state of the market place. Several factors may be at play. Consumers may be moving out of C-Band and opting for Ku-Band systems on either a purchase or lease basis. C-Band subscribers may be "turning off" and opting to watch "in-the-clear," namely the 150 unscrambled channels which are available to practically all C-Band viewers. Some

households may even elect to subscribe to cable service which may not have been previously available when they bought their satellite system. SBCA consumer market surveys indicate that 39% of C-Band system buyers were passed by cable at the time of system purchase, with cable becoming available to another 27% after they had purchased their systems. Finally, consumers may change their residence and not take their DTH systems to their new abode.

Finally, the disparity in net authorizations may be attributed to changes in the so-called "gray market." Subscribers in this sector of the DTH market place are principally residents of Canada, Mexico, and the Caribbean, geographical areas which fall under the "footprint" of many U.S. domestic satellites. Eager to receive U.S. programming, these viewers subscribe to satellite programming, utilizing and paying subscription fees from a U.S. address, although the DTH receiving antenna is located outside the U.S. This is made possible because, as we have already discussed, the actual geographic location of the DTH receiving equipment cannot be discerned by DTH satellite technology. In fact, the DTH industry cannot identify "gray market" subscribers. The technology, both hardware or software, is not and will not be capable of doing so. Therefore attempts to police "gray market" subscribership are impossible for all practical purposes.

SBCA opines that a major contributing factor to the increase in discontinued subscribers may be due to "turn off's" in Mexico where the devalued peso has taken a

heavy toll in foreign exchange transactions. While we are not able to monitor such a development, common sense dictates that subscribers being forced to pay triple the amount in pesos for the same program package simply because of devaluation of the peso is a strong deterrent to subscription renewals, at least in that part of the North American satellite "footprint." There appears to be a substantial number of subscribers who, if they are "turning off," can make a significant dent in the net authorization figures in the C-Band.

In view of all the factors we have presented, it is far too premature to make any significant predictions regarding the C-Band market. C-Band technology has been highly satisfying to more than 4.5 million consumers nationwide. It offers superb picture quality, more than 100 scrambled channels, approximately 150 channels "in-the-clear," and 75 audio services - truly a broad menu of services. However the most important aspect of the data presented here is the correlation, or lack thereof, of the potential factors affecting consumer behavior in the market place. The second half of the calendar year has traditionally been the most favorable period for C-Band sales. We must continue to examine the market place patterns before deriving any conclusive evidence regarding the direction of this technology.

**Ku-Band Services**

The rise in C-Band system shipments and authorizations in 1994 was accompanied by the introduction of High-Powered Ku-Band technology in June, 1994 by DIRECTV and

USSB. The small antenna size will be attractive to many consumers, particularly those in urban and suburban areas. The initial popularity of Ku-Band services has borne out consumer interest in DTH satellite.

The initial subscriber numbers have been impressive. The June issue of SkyREPORT estimates that subscriptions to High-Powered Ku-Band services grew to approximately 600,000 through the end of April. SkyREPORT further estimates that PRIMESTAR's Medium-Powered Ku-Band service grew to roughly 400,000 subscribers in that same period, and projections for May could bring the total to as high as 435,000. Further, preliminary reports indicate that DIRECTV/USSB subscribers may reach 700,000 by the end of June, with PRIMESTAR at 485,000 Collectively, these figures represent approximately 30% of all DTH subscribers. Such a rapid increase must have had an impact on the C-Band, but by how much is difficult to assess.

SBCA's SkyTRENDS program, through agreement with the Access Control Center and the Ku-Band service providers, provides DTH subscriber data in the aggregate. Exhibit A shows geographically the penetration of DTH services on a state-by-state basis as of June 1, 1995. While the 3.3 million combined DTH subscribers amount to 3.5% of total TV households, the breadth of DTH penetration ranges from a high of 12.45% in Montana, to a low of .28% in Delaware. For the most part, the Western and rural states show penetration higher than the mean, and California, Nevada, Arizona and Texas lower than average for that region at 2.24%, 3.79%, 3.32%, and

3.83% respectively. In the East, most states run below the mean, with the exception of Vermont at 10.38%. We attribute the lower pattern in the East and Midwest to larger and more dense population clusters, and thus a greater propensity toward receiving video programming by wire.

## IV. "UNSERVED HOUSEHOLDS"

All DTH satellite services, regardless of frequency band and to the extent that they deliver off-air broadcast services to subscribers, do so under the provisions of the Satellite Home Viewers Act of 1988, as renewed in 1994. The Act provides for a statutory copyright license for the satellite delivery of commercial superstations and network signals to DTH households and requires the payment of royalties to a pool maintained by the Copyright Office based on a per month/per subscriber fee.

A major provision of the SHVA governs the distribution of network signals. Their reception is limited to "unserved households," defined in the 1988 Act as a household that,

> "(A) cannot receive, through the use of a conventional outdoor rooftop receiving antenna, an over-the-air signal of grade B intensity (as defined by the Federal Communications Commission) of a primary network station affiliated with that network, and
>
> "(B) has not, within 90 days before the date on which that household subscribes, either initially or on renewal, to receive secondary transmissions by a satellite carrier of a network station affiliated with that network, subscribed to a cable system that provides the signal of a primary network station affiliated with that network." § 119(d)(10)

Basically, in an attempt to preserve the network affiliate system, only "unserved households" in "white areas" as they are known in the trade, are eligible to receive network signals by satellite.

In response to the Commission's specific inquiry regarding local broadcast signals, it is difficult to judge the extent to which the conditions on "white area" delivery have hampered DTH penetration. There is no question that the ability to view network signals is an important component in a consumer's choice of video service. DTH receiving hardware already contains an electronic A-B switch to accommodate consumers utilizing outdoor antennas or cable for receiving local programming. Enterprising DTH dealers also market rooftop antennas in conjunction with DTH equipment sales in order to assist non-eligible households in receiving off-air network affiliate programming.

The enforcement of the "white area" provisions of the Act, however, has become a highly contentious issue, especially in view of the "challenge" system imposed by the 1994 Act. In it, "white area" households receiving DTH network signals within an affiliate's service area may be challenged by that affiliate. Satellite carriers are required to either terminate service or perform an engineering field test of up to 5% of the pre-October 18, 1994, subscriber base. All post-October 18, 1994, network subscribers are subject to challenge by the affiliates. The "loser" of a challenge must pay the cost of the field test. However, the format and implementation of the

engineering test has not yet been agreed to by the parties.

Significant problems have arisen in this area since the inception of the Act. As of the writing of these comments, network affiliates have challenged tens of thousands of households within their service areas, well beyond the 5% limitation established by the 1994 Act, placing a substantial financial burden on the satellite carriers delivering the signals. Rather than assume the costs for testing such a large number of subscribers, the carriers may elect to simply terminate service, even to households which qualify as "unserved."

Frankly, the SHVA of 1988 could not have perceived the difficulties inherent in the current situation of network signal delivery. The satellite carriers involved must rely on the word of prospective subscribers with regard to their inability to receive off-air network affiliates. By the same token, field testing is expensive, and three years of subscription fees per household would still not cover the cost of an engineering test.

SBCA obviously does not condone any violation of the Copyright Act and has urged its carrier members to deal with the situation as best they can. But they are clearly under attack, and we fear that the situation has become so overwhelming that a major opportunity to reach households which receive no TV programming at all may be lost in the thicket of challenges and testing.

## V. ZONING ORDINANCES, HOMEOWNERS COVENANTS, CONDITIONS AND RESTRICTIONS CONTINUE TO BE BARRIERS TO DTH PENETRATION.

In its NOI, the Commission states that it "recognizes that local zoning and other regulations may potentially serve as impediments to the development and expansion of HSD services." In SBCA's 1994 filing on competition in the video market place, we stressed how local zoning ordinances and other regulations, and HOA covenants continued to act as serious stumbling blocks to the ability of DTH to achieve market penetration at the local level. In our comments, we noted that,

> "Unfortunately, it is not only zoning boards which are having an effect on satellite system sales at the local level. Homeowner associations, through their covenants and other conditions and restrictions, are also barring DTH use. The situation becomes progressively thornier as more and more new residential construction adopts the HOA concept of governance (SBCA estimates that 80% of new home construction comes under HOA purview), and HOA boards and architectural committees exercise their power often without 'due process' being afforded to DTH owners."

Not only has situation not changed, it has frankly gotten worse. Furthermore, as DTH satellite begins to gain prominence, its visibility within HOA's as a subject of regulation has been on the rise.

Last year, we reported that the decision in the California courts in Portola Hills Community Association v. James gave comfort to the DTH industry because the court declared the Portola Hills covenants were not "reasonable" with regard to DTH antennas. That comfort was short-lived. In late 1994, a California court of appeals, ruling in a non-DTH, covenant-related case,

overturned the "reasonableness" test. In fact the judge of record suggested that his court would not have upheld the earlier Portola Hills decision.

To add more fuel to the fire, a Florida court of appeals, in Latera v. The Isle At Mission Bay Homeowners Association recently rejected the appellant's request to maintain a DTH system on the grounds that the First Amendment does not guarantee the right to receive communications. The court, however, did not address the central issue of the precedence of a master covenant which permitted the installation of DTH systems over subassociation covenants which did not. Mr. Latera has asked for reconsideration of the case in en banc hearing. If he should lose, he stands to be in serious financial jeopardy.

A bright light in what would otherwise be a gloomy setting is the Commission's initiative in issuing its Notice of Proposed Rulemaking, IB Docket 95-59, to clarify its 1986 pre-emption order on zoning ordinances. SBCA will be filing extensive comments in support of the NPRM as will other major participants in the industry. We commend the Commission for its intent to clarify, strengthen and "fine tune" certain aspects of the 1986 order in light of new developments in the DTH market place. In addition, SBCA intends to discuss thoroughly the HOA question, as the industry continues to search for a realistic approach to this difficult issue.

## VI. THE SBCA/MEDIA BUSINESS CORP SKYTRENDS PROGRAM

The SBCA/Media Business Corp SkyTRENDS data collection and research program is now in its second full year of operation and has become the leading source of information on DTH competition in communities throughout the U.S. In addition to the monthly SkyREPORT newsletter which reports the most current DTH system shipment and program subscriber data, SkyTRENDS also sponsors the SkyFORUM investment seminars which are designed to introduce the financial community and the press to the potential of the DTH satellite business, as well as satellite communications in general.

SkyTRENDS is now producing an innovative product for cable operators and telecommunications policy makers to assist them in determining penetration by competing technologies in their service areas. Utilizing aggregate subscriber data provided by Ku-Band and C-Band service providers, individual cable operators can verify the number of DTH subscribers by zip code within their service areas for the purpose of determining effective competition, or to find out "what the competition is doing."

The advantages to this service are twofold. First, it is virtually impossible for an individual cable operator to identify the number of C-Band subscribers in a service area. As we have discussed, a majority of DTH subscribers buy

their programming from out-of-state program packagers. Thus the cable operator has no way of knowing which or how many households are subscribers, or how many subscribe to more than one program package. Because all C-Band subscriptions are authorized at the Access Control Center, however, SkyTRENDS is able to aggregate the data by individual zip code and make it available.

There is another feature to DTH subscribership in which SkyTRENDS plays a useful role. Both DIRECTV and USSB occupy the same orbital satellite slot in providing their Digital Satellite System (discussed earlier) to the public. Consumers can receive both services utilizing the same receiving system however they must subscribe separately to each service. The SkyTRENDS data base is able to identify the overlap in subscribing households by zip code and report that household as a single subscribing unit. But acquiring the identical information from the service providers individually could result in counting the same household twice when, in fact, it is a single household simply subscribing to both services.

SkyTRENDS has prepared a state-by-state analysis of DTH penetration as Exhibit A to these comments[4]. It is our intention to update this information

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[4]Number of TV Households from A.C. Nielsen, Television and Cable Factbook, 1995. Basic Cable Subscribers from Warren Publishing, Inc., Television & Cable Factbook, 1995. Number of DTH Subscribers supplied to SkyTRENDS by C-Band, Medium-

later in the year as the Commission prepares to submit its competition report to the Congress, and we will make every effort to make the data as current as possible.

## VII. CONCLUSION

It is clear from the penetration data which is now available, as well as the rate of increase in subscribership among all DTH technologies, that the industry has significant potential for offering consumers a high quality service in the video market place. Mean penetration, however, is only 3.5% which, while encouraging to the industry as a whole, has yet to reflect the full potential of DTH service to be a major competitor in the video market place. Nonetheless, the industry offers the highest picture quality available among all video distribution technologies as well as digital audio service.

Major barriers to competition still remain in the form of abusive zoning ordinances and other regulations, as well as HOA covenants, conditions and restrictions. Their satisfactory resolution could be an important element as to how rapidly DTH will be able to realize its full potential. For the moment there is a large rural constituency for DTH video, much of which has yet to be fulfilled. However the size of Ku-Band antennas will make DTH service

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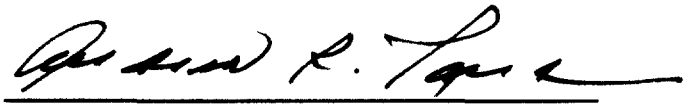
more attractive to urban and suburban households which choose DTH over other video competitors as their viewing medium. The Commission has the continuing opportunity to help alleviate at least some of these artificial barriers to competition. The industry will do the rest, given the overriding quality of service which DTH is capable of delivering.



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